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utilizing the RF method, as modified by this SAP (Section 3.1.1), identified in GT.08, Surface Soil Sampling.

*Subsurface Soils* - The vertical extent of contamination shall be investigated through the completion of boreholes. Borehole locations shall be cleared according to GT.10, Borehole Clearing. Boreholes will be completed by procedure GT.02, Drilling and Sampling Using Hollow-Stem Auger Techniques, or by GT.39, Push Subsurface Soil Sample. If hollow-stem auger techniques are selected, soil samples will be collected utilizing either continuous core auger sampling or continuous drive sampling, depending on which method provides the best percentage of core recovery. Soil cores will be screened with field instruments per FO.15, Photoionization Detectors and Flame Ionization Detectors. Boreholes will be logged according to procedure GT.01, Logging Alluvial and Bedrock Material. Boreholes will be abandoned by procedure GT.05, Plugging and Abandonment of Boreholes, except that geoprobe boreholes will be backfilled with powdered or granular bentonite from ground surface and not tremmied. Boring locations will be identified with their unique location number assigned and surveyed for location and elevation using GPS receivers or equivalent equipment.

### 3.3.2 Sample Handling

The location and depth interval of surface or subsurface media, either soil or water, recovered during the course of this investigation will be recorded in the field log book. RFEDS location codes will be cross indexed to appropriate sample location designations in the field logbook. Soil core and other material that is subject to only field screening will be identified by the sample location code and depth interval where the sample is obtained. Samples undergoing VOC or radioisotope analysis will have Kaiser Hill-Analytical Services Division (KH-ASD) sample numbers and labels applied to the container in the field. A block of location codes will be of sufficient size to include the entire number of possible locations scheduled and an additional twenty percent for potential additional locations. The KH-ASD database system (AST) will be used to manage the analytical data from the laboratories which in turn will be accessed by the RMRS Soil and Water Database for management and archival. Sample collection and handling will follow procedure 5-21000-OPS-FO.13, Containerization, Preserving, Handling, and Shipping Soil and Water Samples. Radioactive samples (equal to or greater than 2 nCi/g) will be transported to offsite laboratories in accordance with hazardous waste transportation shipping

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requirements (49CFR 172, 172.101, 173.403, and 173.421) with the appropriate shipping memo.

Soil samples with greater than 6,000 to 8,000 cpm on the FIDLER are suspected to be characterized as US Department of Transportation radioactive material (potentially greater than 2,000 pCi/g gross alpha/beta total activity). Approximately 30 grams of soil sample will be collected for isotopic analysis and placed into pre-weighed sample container. The sample container containing the soil will be weighed to confirm approximately 30 grams of soil in the sample container. A FIDLER reading of the soil sample in the sample container will be recorded in the field logbook to confirm the radiological screen and isotopic results.

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### 3.4 *Equipment Decontamination/Waste Handling*

Reusable sampling equipment will be decontaminated in accordance with procedure FO.03, Field Decontamination Procedures. Decontamination waters generated during the project will be managed according to procedure FO.07, Handling of Decontamination Water and Wash Water with the exception that the water will be transferred directly to the Consolidated Water Treatment Facility. Drilling equipment will be decontaminated between work areas using procedure FO.04, Decontamination of Equipment at Decontamination Facilities.

Drill cuttings will be handled in accordance with FO.08, Handling and Containerizing Drilling Fluids and Cuttings. Returned sample media will be managed in accordance with FO.09, Handling of Residual Samples. Containers will be labeled in compliance with FO.10, Receiving, Marking and Labeling Environmental Containers. Waste containers will be managed by procedure FO.23, Management of Soil and Sediment Investigative Derived Materials (IDM) and FO.29, Disposition of Soil and Sediment Investigation-Derived Materials. Personal protective equipment shall be disposed according to procedure FO.06, Handling of Personal Protective Equipment. In the event that hazardous, low level, or mixed wastes are generated project waste generators will be responsible for insuring that the waste containers are properly filled, labeled, and have the waste residue traveler documentation in accordance with plant procedures (1-C88-WP1027-NONRAD, "Non-Radioactive Waste Packaging"; 1-M12-WO4034, "Radioactive Waste Packaging Requirements"; 4-099-WO-1100, "Solid Radioactive Waste Packaging"; 1-C80-WO-1102-WRT, "Waste/Residue Traveler Instructions"; 1-PRO-079-WGI-001, "Waste Characterization, Generation, and Packaging; and the WSRIC for Operable Unit Operations, "Version 6.0, Section No. 1, PADC-96-00003).

## 4.0 **PROJECT ORGANIZATION**

Figure 4.1 illustrates the project organizational structure. The RMRS Environmental Restoration Projects Group project manager will be the primary point of responsibility for maintaining data collection and management methods that are consistent with site operations. Other organizations assisting with the implementation of this project are: RMRS Groundwater Operations, RMRS Health and Safety, RMRS Quality Assurance, and Safe Sites of Colorado (SSOC) Radiological Engineering, SSOC Radiological Operations, and KH-ASD.